Storm
Integrated Keypad, Display & Card Reader Module

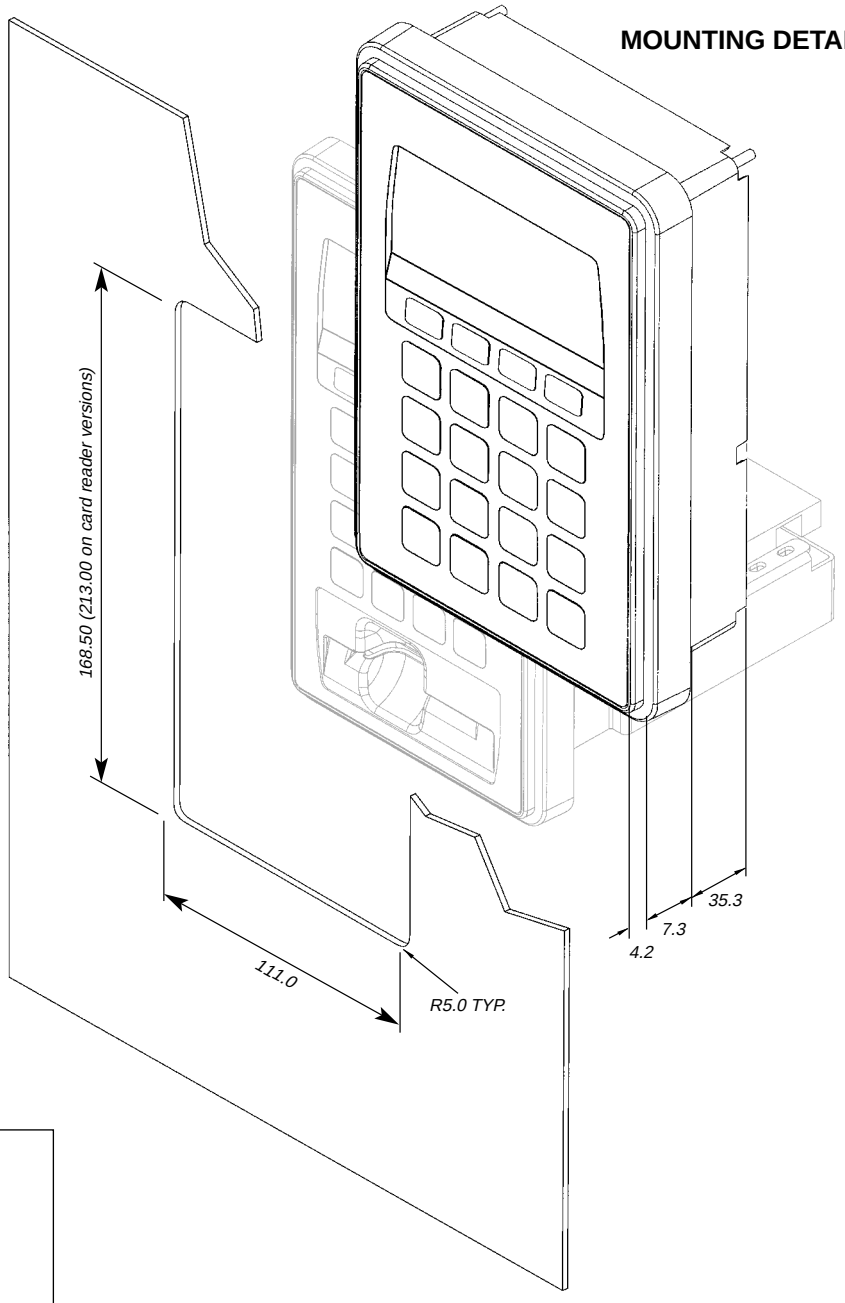
Integrated Keypads

Description	Order Code
Vandal resistant no display	FT1K050
Vandal resistant no display with card reader	FT1K055
Vandal resistant with display	FT1K080
Vandal resistant with display and card reader	FT1K085
Robust with display	FT4K090
Robust with display and card reader	FT4K095
Robust no display	FT4K100
Robust no display with card reader	FT4K105

Key layout on vandal resistant model

▲	▲	▲	▲
1	2	3	A
4	5	6	B
7	8	9	C
* CLR	0	# ENT	•

MOUNTING DETAILS



ACCESSORIES FOR STORM FINANCIAL TRANSACTION UNIT

Stock No.	DESCRIPTION
FT-LIT-01	**FT Application Engineering Guide**
FT-LIT-02	**FT Character Display Datasheet**
FTMK00	**Mounting Kit** (card reader version) Top mount requires 208.6 + 0.5mm x 108.5 + 0.5mm R4.3 Typ (in corners) Underpanel mount requires 213.0 + 0.5 x 111.0 + 0.5mm R5 Typ (in corners)
FTMK01	**Mounting Kit** (includes gaskets / brackets) Top mount requires 165.0 + 0.5 x 108.5 + 0.5mm R4.3 Typ (in corners) Under panel mount requires 168.5 + 0.5 x 111.0 + 0.5mm R5.0 Typ (in corners)
	GFX Keytop Accessories Enables custom configuration of keytop graphics and colour
GS000	**Spare transparent keytops (set of 4)** Fit once only
GSA0T2	**Set A:** 0 – 9, ←, →, ↑, ↓, *, #, +, , ÷, =, ., X, AC, I/O, ENT, CE/C.
GSB0T2	**Set B**: ←, →, ↑, ↓, ENT, PRINT, DEL, INS, CAP, ESC, CTRL, ALT, ON, OFF, \, /, LOCK, ⇑, ↦, ⇑, $£, :, ;, ,, .,↵, .
GSC0T2	**Set C:** "A TO Z"
GSD0T2	**Set D**: FI TO F12, £, $, ?, !, (,), @, <, >, Fn, ", ', %, &.
GSE0T2	**Set E:** Blank
GSF0T2	**Set F:** 0 – 9, →,A – F, CE/C, ENT, OFF, *, #, +, -, ., blank.
GS0001	**White colour tile set**
GS0002	**Grey colour tile set**
GS0003	**Red colour tile set**
GS0004	**Green colour tile set**
GS0005	**Blue colour tile set**
GS0006	**Yellow colour tile set**

All dimensions in millimetres (mm). Full product specifications are available on request from your local Storm stockist. Storm keypads incorporate key switch technology protected by International Patents.

Whilst every effort is made to ensure details are correct at time of print, specifications are subject to change without notice.

FT-XX-08KT – Iss1

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FM39602

Storm is a trademark of Keymat Technology Ltd

Storm
*Integrated **K**eypad, **D**isplay & **C**ard **R**eader **M**odule*

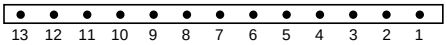
PRODUCT SPECIFICATIONS AND CONNECTION DETAILS

Connection Details for 20 Key Keypad

CONTACT MATRIX	
CONNECTOR PIN	**ROW/ COLUMN**
1	LED-Cathode*
2	Tamper In
3	B
4	C
5	1
6	2
7	3
8	4
9	E
10	D
11	A
12	Tamper Out
13	LED-Anode*

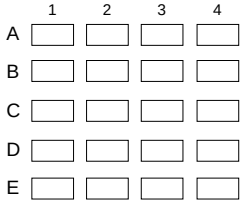
*For illuminated version only

CONTACT CONNECTIONS



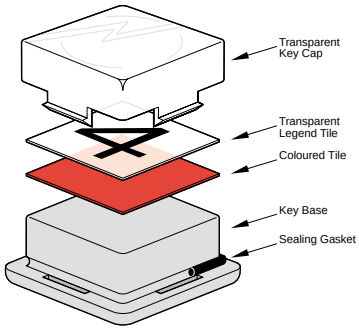
13 12 11 10 9 8 7 6 5 4 3 2 1

(As viewed from rear of keypad)



KEY LOCATION
(As viewed from front of keypad)

Keytop Assembly Instructions



GFX Integrated keypads are supplied with the key bases fitted. Each key position except the top row can be customised without dismantling the keypad. Keytop options can be selected from a library of standard symbols, characters and background colours. Alternatively, customised keytop graphics can be created using laser printed acetate film or screen printed polymer film.
The total thickness of the coloured tile and legend tile should not exceed 0.4mm. (Please note, paper is not recommended as the printed graphics may degrade if exposed to moisture/condensation.)

1 Orientate the graphics on the keypad correctly.

2 Load each key position in turn. First locate the legend tile into the transparent key cap, then locate the transparent coloured tile (see diagram).

3 Before snapping the transparent key cap, (including legend and coloured tile) into position, ensure that the legend tile's position, orientation and alignment are correct.

4 Snap keytop into place ensuring the top is fully seated.

Please note, if it is necessary to remove the transparent key cap a suitable tool or pliers should be used. Once removed the key cap should not be re-used; spare key caps and bases are available in sets of 4, part number GS0000.

KEYPAD SPECIFICATIONS	VANDAL RESISTANT	ROBUST
Vandal Resistant	Yes	No
Impact Resistant	Yes	No
IP Rating	Up to IP67 (in a suitable enclosure)	Up to IP54 (in a suitable enclosure)
Key Life (cycles)	> 4 million	> 2 million
Service Temp. (Non condensing)	-40° C to +75° C (keypad only)	-10° C to +75° C (keypad only)
Case Material	Super Impact polymer	Super Impact polymer
Case Colour	Black case / stainless front	Black case / polycarbonate front
Keytops	Chromed zinc	GFX
Key Legends	Engraved and backfilled	User defined
Contact Materials	Carbon / gold	Carbon / gold
Contact Bounce	5ms	5ms
Contact Resistance	100 ohms (max)	100 ohms (max)
Insulation Resistance	50 Mohms (min)	50 Mohms (min)
Breakdown Voltage	500 V ac (60 secs)	500 V ac (60 secs)
Operating Voltage (contacts)	24 V dc (max)	24 V dc (max)
Operating Current (contacts)	50mA (max)	50mA (max)
Keytop Travel	1.4 mm (nominal)	1.4 mm (nominal)
Actuation Force	180 grams (nominal)	180 grams (nominal)
Connector Type	0.1" gold plated square pin with locking ramps	0.1" gold plated square pin with locking ramps

CHARACTER DISPLAY (where specified) Type and Connections	Powertips 20 character x 4 line display type PC2004LRU-AEA-B Fitted with a single row of 16 0.1" gold plated square pins Service Temperature Range 0 °C to 50° C
ANTI TAMPER CIRCUIT	
Operating Voltage	24 V dc (max)
Operating Current	10 mA (max)
Circuit Resistance (normally closed)	< 500 ohms
Circuit Resistance (open)	> 5 Mohms if the PCB is seperated in any way from the housing